The Union Pacific Coal Company

WASHINGTON UNION COAL COMPANY

EMPLOYES' MAGAZINE

TONO SCHOOL

MARCH, 1924

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WOODROW WILSON

December 28th, 1856—Feb. 3rd, 1924.

On February 3rd the Great War President, Woodrow Wilson, Commander in Chief of the mightiest army ever mobilized on American soil, with eyes closed and arms folded, silently responded to the last earthly roll call, and his soul slipped out into the company of the thousands of that shadowy army, of whom for nineteen months he was First Officer; the men of Argonne, the men of Aisne, who with the "Unknown Soldier" at the head of the column, doubtless stood at "attention" as he took his place in their ghostly ranks.

It is a difficult task to touch on the career of this man, whose ideals and principles took root, almost in a night in the hearts of the men and women of the whole world; including the fatalistic peasantry of Russia; the inscrutable Oriental of China; the Japanese; the Slavonic peoples of Poland, of Czecho-Slovakia and the Balkans; the Romanic races of France, Spain and Italy; the Shepherd races of Arabia, Syria and the mysterious East; as well as all the peoples of the West.

Of him it has been said that "the Wilson name and the Wilson creed have found lodgement in a greater number of human minds throughout the world today, than any other name or platform except those of Jesus and Mohammed." After the armistice of November 11th, 1918, he sailed for France to enter the Peace Conference, and although his journey after arriving at Brest on December 13th was of a triumphal character never before experienced, even by Prince, Potentate or King, his sun was then at high noon and soon thereafter it begun to sink toward the "West" that he eventually entered on February 3rd, 1924.

Woodrow Wilson was a man alone, like a great pine on a mountain top, he towered intellectually above the heads of all men, a great idealist, with a voice and a pen that alike poured out thoughts of molten silver and gold. His every word was illumined and inspired, but withal, though gifted with the power to attract and attach men, he proved unable to hold in communion the men whose help and companionship he most needed. With all his personal heart longings and prayers on the side of the Allies and their cause, he was slow to admit justification for his own country and his own people entering the war, withholding preparation until the last, even refusing to acknowledge the situation when the Lusitania was sunk on May 7th, 1915, making his famous "too proud to fight" speech three days thereafter. Thus for over two and one-half years, while Europe ran red with blood we stayed out, until on April 2nd, 1917, he asked Congress to declare war on Germany and four days later he declared publicly for "force to the utmost, force without stint or limit, the righteous triumphant force which shall make right the law of the world and cast every selfish dominion down in the dust."

Repudiated by his own government on his return from Europe, he set out on September 3rd, 1919, on a speaking tour of the west, hoping to rally the people to his cause, but weakened and cast down he was stricken ill on September 26th, and on October 5th following, he suffered a further blow to his physical strength which thereafter continued to ebb until the final call came.

Perhaps the most impassioned post-death tribute ever made to man, was that expressed by a great Jewish divine who said:

> "Men say he failed. He failed not. We failed. America failed, the America which, if it had stood by him as he stood for America, might have made him the immediate victor over every European conspiracy and American cabal.

The Employes' Magazine is a monthly publication devoted to the interests of the employes of The Union Pacific Coal Company and Washington Union Coal Company and their families. It will contain items of current news, personal notes about employes and their families, together with articles dealing with the coal mining industry, the personal safety of the men engaged in mining a first consideration. Employes are not only invited but urged to write articles for the magazine, which should be typewritten on one side of the sheet only, addressed to Editor, Employes' Magazine, Union Pacific Coal Company, Rock Springs, Wyoming.

Good clear photographs suitable for reproduction are especially desired, all cartoons and drawings must be in black India ink. The magazine will be distributed free to all employes of The Union Pacific Coal Company and Washington Union Coal Company.

ATLANTA E. HECKER, Editor.

"We failed, and we failed because we, his fellow Americans, were unequal to his vision, because we did not rise together to those mountain heights to which he summoned, to which he challenged. History will not forget his imperishable name. God give it that history will compassionately embalm in oblivion the names and the deeds of those who, to punish your and my leader, the hope-bringer of humankind, struck him down and broke the heart of the world. God forgive them.

"And as for Wilson, he became not the builder of the new world, but he is its architect."

The son of a poor clergyman, one of fifteen children, an environment that has given the world some of its greatest men, it is a simple matter to look back and to see clearly how, down the long road, as a teacher, author, orator and statesman, this man was being matured and trained for extraordinary events and purposes. Always with the hour comes the man and so the race sweeps on.

The first President to leave American soil while in office, his remains were laid to rest in what will be the Westminster Abbey of America, the great National Cathedral at Washington, a tomb which will, when completed, tower in height and magnificence along with the white shaft of Washington and the memorial to Lincoln, America's two great immortals. From the New York World we take the tribute of a woman; Yea, "an eagle passed."

The eagle has passed on! . . . into the blue . . .
And all the chattering of the sparrows dies.
They could not bear to see the eagle rise
Beyond the reaches that their small wings knew
Above the housetops they could compass too—
But though they strove to blind the eagle's eyes
With fluttering wings . . . to stay him with their cries.
He rose and passed—above, beyond their view.

An eagle always is a lonely one—
The fair heights call to him and he must go;
But little birds cannot look on the sun,
And what an eagle knows they cannot know.
When he is gone the small ones know, at last,
That there above their head an eagle passed!

—By Roselle Mercier Montgomery.

WHO CARRIES THE LOAD

In our January issue brief comment was made on our growing tax bill. There was a time when a man who accepted office looked upon same as a sacred trust. He had the courage to say no to those who sought to direct legislation for selfish purposes. We have many men in public places today who would like to see the business of the nation conducted along business lines, but these men are pulled and thrust about by an aggressive minority who have but one idea in mind, to "get while the getting is good." The cartoon shows that the everyday citizen, be he workman or business man, must carry a material portion of the load that flows from the extravagant waste of public funds.

You may dodge the assessor, but you cannot dodge the tax. The remedy rests in the direction of more studious interest on the part of those who work and save, the men and women who look upon citizenship as a privilege. Public improvements should be planned and carried out, but we should not try to construct and put into use more than we can safely pay for. Thousands of miles of highway are being built annually, the expense of construction met by is-

sues of bonds payable in from twenty to forty years, the promoters closing their eyes to the fact that much of the mileage so bonded will face renewal in ten years.

There is a fund of good advice in the familiar railway crossing sign "STOP, LOOK AND LISTEN."

THIS INDUSTRY OF OURS

The coal industry, one of the greatest we have, is sick. Like the small boy who ate too many green apples, we hate to admit it, but the pallid look the patient wears makes denial useless.

King Coal, who makes the steam that yet drives the locomotive and the electric turbine, which turns the nation's spindles and lights the way toward better things, is a proven gambler and spendthrift. He has taken chances which, while gloriously courageous, rival those taken by the bull who disputed the right of way with the freight train. He has prospected and drilled, drove drifts, slopes, shafts, rock tunnels and entries, to and through the coal; he has expended millions of dollars and given work to thousands of men, but all the time he was striving to build up a mine and labor machine large enough to fuel the nation for a whole year in a period of six months, depending upon car shortages and labor strikes to occupy the minds of the public during the idle six months period; forgetful that waste and extravagance always brings a period of protest and pain, and it is this after-ache that the old King is now going through. Flat on his back, with gouty feet resting in idleness, the old boy is indulging in much reflection, and so likewise are his uncles, aunts and cousins, who are a part of the King Coal family.

The statement of bituminous coal production by months for six years tells the story. In April, 1922, the total production of soft coal was 16,000,000 tons, while for June, 1923, it was 45,000,000 tons. The strike of 1922 caused the old King to open many new mines and to increase the output of others, until, with less than half work, the nation's production of soft coal in 1923 was 545,758,000 tons. A study of the fluctuations in production will prove interesting.

Production of Bituminous Coal, United States, by Months, for Six Years

	1923	1922	1921	1920	1919	1918
January	50,178	37,489	41,148	49,748	42,193	42,227
February	42,160	40,856	31,524	41,055	32,103	43,777
March	46,802	49,976	31,054	47,850	34,293	48,113
April	42,564	16,000	28,154	38,764	32,712	46,041
May	46,076	20,601	34,057	39,841	38,186	50,443
June	45,490	22,624	34,635	46,095	37,685	51,138
July	45,126	17,147	31,047	45,988	43,425	54,971
August	48,864	27,538	35,291	49,974	43,613	55,114
September	46,216	39,413	35,870	50,241	48,209	51,183
October	49,171	44,907	44,687	53,278	57,200	52,300
November	42,946	45,103	36,805	52,576	19,006	43,895
December	40,165	46,240	31,650	53,257	37,235	40,184
TOTAL	545,758	407,894	415,922	568,667	465,860	579,386

Note: Add (000) to monthly and annual tonnages.

The old King's present bad spell is due to simple indigestion, his inability to swallow what he produced, although working but half time . He did the best he could, but withal found himself on New Year's Day with 70,980,000 tons still on his plate, coal above ground, in storage piles and on docks. The day of serious car shortage is past, and strikes, which did more to overdevelop the industry than any other thing, seem to be losing popularity.

What the industry is now getting is a sobering-up period, in which employers and employes alike may take stock of the real facts, unclouded by demagogic hysteria. The surplus high cost mines must close, and likewise, a great many of the men who have been attracted to the industry during the inflation period must find employment elsewhere. The rehabilitation of the railroads and the conservative attitude recently expressed by the mine workers holds promise for a sounder and more stable coal industry. The industry will pull out of the morass it is now dragging through, but the necessity for shifting from high or second to low is before us. Good driving, and that alone, will do the job.

INDUSTRIAL DISPUTES CAUSE BIG LOSS IN EIGHT YEARS

In the eight years from 1916 to 1923, inclusive, strikes and lockouts cost the American public, including employees and employers, approximately $12,522,203,000 and a loss of 424,329,008 full working days according to the results of a survey announced by Noel Sargent, secretary of the Industrial Relations Committee of the National Association of Manufacturers.

The survey divides the loss for the eight years as follows: Employees, $1,740,403,522; employers, $478,-610,969; and the public, $10,303,188,865.

During 1923, strikes and lockouts in the United States caused a loss of $703,839,575 and 20,551,140 working days, the survey shows. This is apportioned: Employees, $97,823,427; employers, $26,901,443; and the public, $579,114,705.

ENGINEERS' DEPARTMENT

In this department of the Magazine an attempt will be made to explain certain simple matters related to the engineering features of mine operation and management.

The Editor will be delighted to receive requests for information on matters of interest and value to the Miners. These requests will be answered by Chief Engineer, Mr. Swann; Chief Electrical Engineer, Mr. McKeehan; and the General Master Mechanic, Mr. Muir.

No. 3 PUMP SHAFT

By Robt. Buir

In the year 1881 the No. 3 pump shaft was being sunk. I was there a short time as Hoisting Engineer. A deep well pump was used as a sinking pump, the steam cylinder being located on top of the shaft with three-inch pipe as pump rods extending to the water end of the pump near the bottom of the shaft.

One week, while on night shift, the water end of this pump broke and it was necessary to take it to the shop for repairs. This shaft, which was then two hundred and sixty feet deep, made considerable water and it was necessary to hoist the water steadily to keep it from raising until the pump was back in operation.

One night when the bucket had just started from the bottom, the engine stopped instantly on account of the bucket getting caught on something. After trying several times to pull it loose and failing I told the fireman not to move the engine as I was going to slide down the rope to see what was the trouble. I found that the bucket had swung under the three-inch pump rod, which had punched a hole in the bottom of the bucket, and was jammed against one of the cross timbers which was a guide for the pump rods. I tried to get the bucket back over the rod but couldn't so I unhooked the rope from the bucket and climbed the rope to the top, then hoisted the rope to the top and had the top man put on the extra water bucket. It was less than one hour until we were again hoisting and I got the water down so the pump could be replaced the next morning.

AN ELEMENTARY DESCRIPTION OF THE UNITED STATES SYSTEM OF LAYING OUT THE PUBLIC LANDS

This system has been used on all lands north of the Ohio River and west of the Mississippi River not owned by individuals previous to the dates same were acquired by the United States Government; also similar lands in the states of Florida, Alabama, Mississippi and Tennessee.

All of this land, except the private claims, has been sub-divided, or laid out, in rectangular tracts bounded by north and south and east and west lines, each tract being marked such that it is impossible for the patents or titles obtained from the Government to conflict.

The system was probably devised by Gen. Rufus Putnam, an army officer and was first used in 1786.

We will assume the unit of land measurements in the United States to be a township. A township is almost a square, six miles long on the south, east and west sides and a small amount less than six miles on the north side. For individual townships the loss in length of the north line is negligible but in extending a number of townships north above each other a large difference would be shown.

As a rough example we can compare the shape of the earth to an apple, the stem of the apple representing the north pole. If we draw lines from two points on the apple above the center to the stem, these lines will both represent due north lines, but the two lines will gradually come together until they meet at the stem. If these lines are assumed to represent the east and west sides of a township we have what is known as covergence of meridians, and the reason why the north line of a township is slightly less than six miles.

For this reason a correction line is established every twenty-four miles, or for each four townships, and a new start made, using the full six miles for the south boundary of the new township above the correction line. A row of townships extending north or south is called a Range.

Townships are divided into thirty-six parts, called sections, each being one mile square. This is the smallest sub-division made by the Government surveys but provision is made for dividing the section into quarters by placing a marked stone or other device on each boundary line of the section half way between the corners. See map illustrating Townships and Ranges, their numbers and corners established by the Government shown by small circle.

Explanatory Data.

One township is six miles square and contains 36 sections, or 23,040 acres.

A mile is 5,280 feet long.

A quarter-section is 2,640 feet square and contains 160 acres.

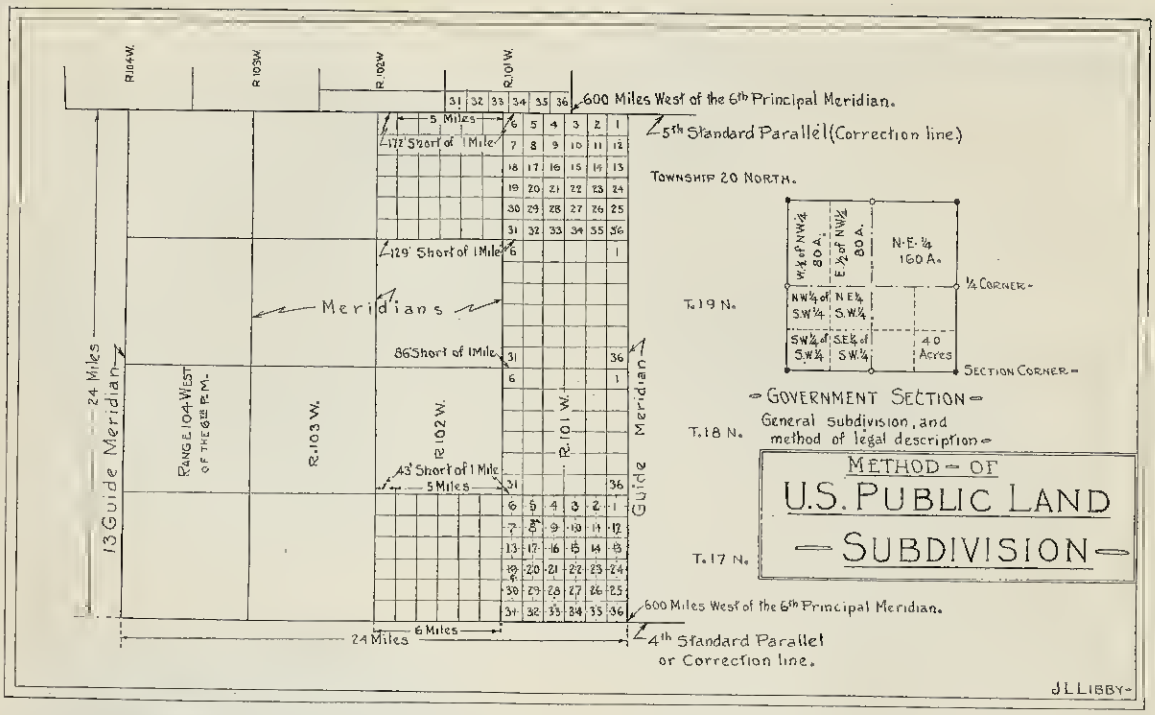
An acre is 208 feet, 8½ inches square and contains 43,560 square feet.

All land measurements are made horizontal or on the level, therefore a section of ground located on a hillside or on broken ground will actually contain many more square feet of surface than one laid out on level ground.

On account of land measurements being made horizontal, when mine surveys are made in slopes, planes and places not driven on the level, these measurements must be taken on the level or reduced to level lines in order to conform to the land lines.

ALEXANDER GRAHAM BELL

Alexander Graham Bell was born in Scotland but came to America while still quite a lad. There are many who claim to be the inventor of the telephone but to Bell must come the honor of being the first one to put the instrument into practical shape. He has also made many other inventions. His father was the first man to teach the deaf how to read lips and also taught many of them to speak. So in this case we have both father and son worthy of being remembered by the public.



ROCK SPRINGS CENTRAL POWER STATION TURBINE-GENERATOR ROOM

Coal mining companies as other industries feel a keen sense of pride in their better machinery installations and the present Boiler Plant and Turbine-Generator Room are no exceptions.

The generating room is built of hollow tile, steel and concrete. Large windows give a copious supply of light and ample room around the machinery which is immaculately clean, gives a very pleasing effect to workmen and visitors.

A generating unit consists of; the Turbine or steam end which utilizes the steam to revolve a set of bucket wheels that are mounted on a heavy shaft and to which is coupled the Rotor of the electric generator.

The movable parts revolve at a speed of 3600 revolutions per minute or 60 times per second.

There are four such units in the plant. Three of 2500 K. W. capacity and one of 1000 K. W. capacity. The combined rating being 11000 horse-power.

Normally two of the larger machines are operated for the day shift but it has been necessary for three machines to carry the load at times.

Persons visiting the plant are first impressed with the large cooling and spray pond outside of the building and wonder what purpose it serves. The steam after performing its work in travelling through the turbines, passes to a large cast iron cylinder called a Jet Condenser, located beneath the turbine in the basement, where it is mingled with the water from the pond that has been cooled by spraying. The same water is used over and over again and were it not for the spraying the water would boil for it contains a large amount of heat that remains in the exhaust steam.

The water is drawn from the pond into the condenser and the mixture of cold water and condensed steam is sent back to the pond by motor driven pumps. The 1000 K. W. turbine requires a 75 H. P. motor for its pump, one 2500 K. W. turbine requires a 165 H. P. motor and the other two turbines require 200 H. P. motors. The larger pumps handle about 4000 gallons per minute.

The purpose of condensing the steam is to derive the benefit of additional pressure obtained by using the steam throughout a pressure range, varying from 150 pounds gauge to about 11 pounds less than our normal air pressure, called a Vacuum. This gives a total working pressure of 161 pounds.

When the steam is turned back to water in the Jet Condenser the turbine has twice the power that it would have if the steam were allowed to escape into the air.

Air that may leak into the condenser and lower the vacuum is drawn out by a steam engine driven air pump or by an Evactor which is a sort of steam jet.

The turbines are equipped with governors that maintain the speed very close to 3600 revolutions per minute regardless of load conditions.

They are also equipped with an overspeed device, that in the event of a deranged governor, or other control parts becoming inoperative, automatically shuts down the machine.

As before mentioned, the turbine shaft is coupled to the rotor of the electric generator. The rotor consists of a large number of round flat sheets of iron built up to form in outline a cylinder, in each side of which is embedded a set of coils. These coils receive from a small Exciter a low voltage, about 110 volts of direct-current, which magnetizes one side of the rotor positive and the other side negative.

When rotated, the magnetic lines radiating from the rotor, sweep past the coils that are built into the stationary part and causes a voltage to be generated in them.

This pressure is 2300 volts and is known as the plant voltage.

There are two 40 K. W. exciter sets and one 20 K. W. exciter that is connected to a main generator. One set consists of a small steam turbine, a synchronous motor and a direct-current generator, all connected together. This is in order that the generator, commonly called an Exciter, may be driven by the turbine or by the synchronous motor, as occasion may arise. The other set consists of a synchronous motor direct coupled to an exciter and the synchronous motor is supplied with 2300 volts from the main units.

In connection with the exciters is a Tirrill regulator, that so controls the exciting current to the main generators, that their voltage is unvarying, otherwise, everyone receiving lights from the plant would be subjected to an annoying flickering.

The main switchboard extends nearly the full length of one end of the building and consists of 16 Blue Vermont marble panels 90 inches high, 3 exciter panels, 4 generator panels, 1 totalizing panel, 1 panel for plant auxiliaries and seven feeder panels, all equipped with the necessary instruments for controlling the output of the plant.

The oil circuit breakers for the generators or circuits are operated by levers from the front of the board but are mounted in the rear.

The supply lines to the town of Rock Springs, and vicinity, are supplied at 2300 volts.

This is transformed to 13200 volts for E Plane, Gunn and Reliance by 3,400 K. V. A. transformers. The mines at Dines, Winton and Superior are supplied by two banks of transformers. One bank contains 3,833 K. V. A. transformers and the other bank 3 of 400 K. V. A. capacity, both of which raise the voltage from 2300 to 36000 volts. Recent changes in the switchboard permit of sections to be inspected or repaired without shutting down the whole plant as was formerly necessary. This will mean that at all times one of the generators will be delivering power to the section not disconnected.

The machinery in such plants as this is designed to operate with a minimum of attention. Many parts are enclosed so that one sees very little of what really constitutes a turbine and generator.

The oiling is carried on constantly by small pumps built within the machine.

The speed and voltage are accurately controlled by their respective mechanisms and only for purposes of adjustment is it necessary for these parts to be touched by human hands.

If one generator is running and it is necessary to start the second, the two are connected together by a process called synchronizing, which means, "to occur at the same time." As an illustration, if the valve stems of the two rear tires of your automobile reach the down position (nearest the earth) at the same time, they are in synchronism.

One may lead or lag the other at times, but when the two stems pass the lowest point at the same instant, it "occurs at the same time" and they are in synchronism.

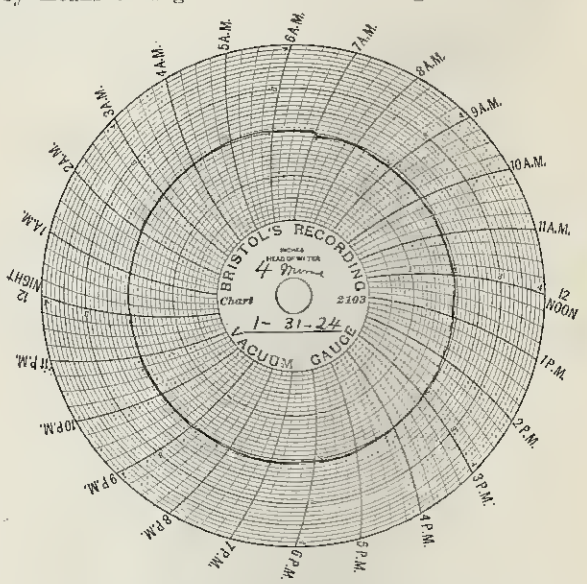
The speed is the same and they have the same relative position to each other. When the Generator Rotors are revolving, at 3600 revolutions per minute, each generator is adjusted for the same voltage and they are connected together when they come to the same relative position by closing the proper switch. Two instruments, one at either end of the switchboard indicate the time for completing the connection. In this way the load is transferred from one machine to another without disturbing the continuity of service.

RECORDING VACUUM GAUGES ON VENTILATING CIRCUITS

For the past three months the coal mines of The Union Pacific Coal Company in the Southern Wyoming field have all been equipped with recording vacuum gauges, of modern pattern, placed on the ventilating circuit at a point within sixty feet of the mine fan. This addition in equipment has been made to further protect underground employees by giving the mine foremen a graphic record of the action of the air current for the previous night. On arriving at the mine in the morning the foreman first proceeds to the recording vacuum gauge and puts a fresh chart in place of the chart on which the previous 24 hours performance is recorded. He then examines the chart taken off and if nothing irregular appears in the record allows the underground employees to proceed to their work by manway or man-trip. An explanation in writing on the back of the marked and dated chart is required, if the recorded ink line shows any variation, together with the signature of the foreman and superintendent. The charts are then forwarded to the general office in Rock Springs, where, after inspection and signature by the general superintendent and the safety engineer they are kept on file for six months.

There are two types of recording gauges necessary in ventilating practice, namely the vacuum gauge for exhausting fans or fans pulling air through the mine, and the pressure gauge for blowing fans or fans pushing air through the mine. The Union Pacific Coal Company mines are ventilated by exhausting fans for the reason that in this manner of ventilation the old works bleed out little by little the noxious atmospheres created after the ventilating circuit is cut off, whereas the pressure resulting from the use of a blowing fan holds back the noxious atmospheres and they become more heavily charged with harmful content, so that when, for some unavoidable reason the ventilating circuit is disturbed, the penned up damps rush out into the travel ways and it is a difficult and even dangerous problem to properly restore ventilation in a short space of time.

The pressure of a ventilating circuit is expressed in inches of water gauge and so also the vacuum or exhausting force is expressed in the same manner. For many years the most convenient manner of measuring the pressure or vacuum of a ventilating current was by means of a glass U-tube containing water to the



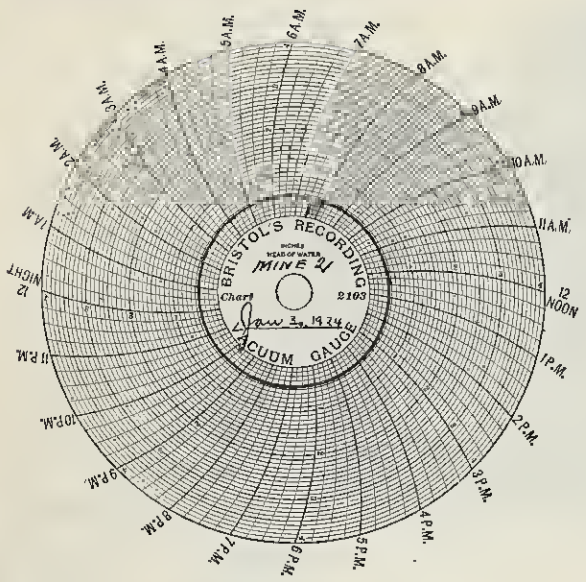
depth of a few inches in the bottom and with one end of the tube bent to go through a hole in a brattice or stopping. When the pressure or vacuum caused the water in the U-tube to be displaced to the amount of one inch it meant that the force exerted per square foot by the ventilating current was 5.2 pounds.

Why 5.2 pounds?

One cubic foot (12 inches x 12 inches x 12 inches) of water weighs 62.5 pounds. Water which would cover a square foot (12 inches x 12 inches) to a depth of one inch would weight one-twelfth of 62.5 pounds or 5.2 pounds.

Hence the displacement of the water in the U-tube to the amount of one inch in height means that the ventilating current is pressing or pulling to the extent of 5.2 pounds per square foot. This pressure or vacuum is applied to all surfaces with which the ventilation circuit is in contact.

As steam power developed in use, the bellows or diaphragm type of pressure gauge was invented and perfected and steam pressures were indicated in pounds per square inch of surface contact. The need arose for gauges that would record steam pressures throughout the 24 hours of the day and clock mechanisms were arranged to cause a paper chart or dial to revolve once in 24 hours while a pen filled with



slow drying, non-freezing ink and suspended at the end of an indicating arm, drew a continuous line indicating the pressure received at the gauge.

This same diaphragm recorder designed for either pressure or vacuum has been adapted to our use for indicating on the ventilating circuit in inches of water gauge. If the amount of air required is small and the airways are wide, high and smooth, with no obstructions the recording gauge will show perhaps ½ inch or $5.2 = 2.6$ pounds per square foot of vacuum

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at the Union Pacific Coal Company mines. If the amount (cubic feet per minute) of air required is large, the airways long, twisting, rough and obstructed, the recording gauge will show perhaps 4 inches or 5.2 lbs. x 4 = 20.8 pounds per square foot.

Two typical charts are shown herewith to illustrate the use of the recording vacuum gauges.

MINING A METEOR

A meteor is a large mineral body that has fallen on the earth from some other planet. A buried mass of minerals of great value is now being sought after by a group of enterprising engineers. They are working in Canyon Diabolo, Arizona. Scientists say this meteor fell to the earth about thirty centuries ago. This meteor, they estimate, weighs 1,000,000 tons. The engineers are after PURE IRON as the meteor is supposed to contain 90% of this mineral. When it fell it left a crater like impression 600 feet deep and 4,000 feet in diameter, with a rim raised 160 feet above the plain. The meteor itself is thougth to be 300 feet in diameter. A large and wealthy mining corporation is furnishing the necessary money for this enterprise. Expert drillers from the California oil fields were set to work. After a year's work they think they have struck the meteor at a depth of 1,400 feet. At this level the drill recoiled with a loud clang and came up worn smooth by a substance no man forged metal can match.

This meteor contains 90% of fine iron, not ore, but pure; 8% nickel, which is not now produced in the United States, one-fifth ounce of platinum to each ton, a small per cent of iridium more valuable than paltinum and very tiny diamonds. Roughly speaking it is worth about $50.00 net per ton. The work is said to be progressing rapidly.

The site of this body has long been known to the Navajo Indians. They predict ill fortune to those engaged in this business as they believe three of their gods, who were very tired, came down from the skies to rest on our earth and they should not be disturbed.

—Adapted from Current Opinion.

COAL MINE ACCIDENT RATE REDUCED IN 1923

Washington, Feb 8.—Reports by the various state mine inspectors to the United States bureau of mines, show 2,452 men were killed by accidents at coal mines in the United States in 1923. Of these fatalities, 2,249 occurred as the result of accidents underground, 46 were due to shaft accidents, and 157 to accidents in and around surface plants. The production of coal during the year was 641,476,000 tons; hence the fatality rate for the year was 3.82 per 1,000,000 tons, as compared with 4.15 for 1922.

This reduction of 8 per cent in the fatal-accident rate in 1923 is equivalent to the saving of 210 lives, the bureau of mines points out, and is another way of saying that had the fatality rate of 1922 continued during the past year the number of lives lost would have been 210 more than actually were lost during 1923.

Not only was there a net reduction in the fatality rate from all causes combined, but each of the main causes of coal-mine fatalities also showed a decline. Falls of roof and coal, which generally account for nearly half of all deaths in coal mines, were responsible for 1,158 fatalities in 1923, which represents a rate of 1.81 per 1,000,000 tons, as compared with 1.90 in 1922. Haulage accidents underground usually cause about 18 per cent of all fatalities, and the reports for 1923 show that 413 deaths were due to this cause, indicating a rate of 0.64 per 1,000,000 tons, as against 0.72 the previous year. Gas and dust explosions killed 372 men, the fatality rate being 0.58; the previous year's rate was 0.65. Seventy-five deaths were due to electricity, for which class of accidents the fatality rate per 1,000,000 tons was 0.12 as compared with 0.16 the year before. Powder and other explosives caused 114 deaths, representing a rate of 0.18 as compared with 0.19 for 1922.

—Daily Metal Trade News Service.

PRIZE PAPER CONTEST

In the January number a cash prize of $10.00 was offered to the employee of either company preparing the best essay on "How to Prevent Mine Accidents." Up to date we are without response.

The Make it Safe Department is not willing to subscribe to the fact that the two companies have not in their ranks many men that can write thoroughly able papers on safety matters. We are, therefore, renewing the offer of $10.00 in cash for the best paper of 1,000 words, typewritten on one side of the sheet only, and in addition we will pay $5.00 for the second best paper; all papers to be the property of the Magazine and subject to publication in whole or part.

Please get the papers in to the Editor on or before March 20th.

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You will find our "Weatherbirds" ideal health and service shoes for your happy, romping girls and boys.

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Our line of Men's and Ladies' Dress Shoes and Men's Work Shoes, are all solid leather and guaranteed the same as Children's Shoes.

WINTER MEETING OF THE ROCKY MOUNTAIN COAL MINING INSTITUTE IN DENVER, COLORADO

The three day meeting of the Institute, February 13th to 15th, inclusive, was attended by a delegation from Rock Springs, Reliance, Winton and Superior. The mining men of the Rocky Mountain District were well represented in the attendance of 150 members, all interested in the promotion of safety work, the chief activity of the meeting.

Superintendent Thos. Foster of Reliance of the Union Pacific Coal Company, read a paper on the subject of Coal Dust in Mines which brought forth a lively discussion in which a large number of members took part. Engineer Dan Harrington of the United States Bureau of Mines described the work in counteracting the coal dust danger which is being carried on at the mines of the Stag Canon Fuel Company at Dawson, New Mexico and stated that he considered these mines now the safest in the country.

The report of the safety committee read by Mr. George B. Pryde, the retiring president of the Institute, resulted in prolonged and instructive discussion in which many men from all branches of the coal mining industry joined with a will. "Systematic Timbering" received the lion's share of attention and from a wide variance of views at the beginning of the argument the question was finally boiled down to an agreed basis. The safety committee will consult and investigate further through the next six months and report to the summer meeting in an effort to arrive at a standard set of safety practices to recommend to the industry.

A letter was read from a mine official which contained an urgent request that effort be made to bring the local mine officials and mine workers into the Institute to a greater extent than now governs, the writer expressing the belief that only by bringing together all of the various branches of the coal mining work, as represented by the men who perform that work, can the real benefits of the Institute be developed.

As the closing work of a very beneficial and enjoyable meeting the retiring president called for the election of officers for the ensuing year. General Superintendent Littlejohn of the Utah Fuel Company was the choice of the membership for the office of president and Mr. Benedict Schubart was prevailed upon to carry on in the capacity of secretary.

Foreign News

GREECE:

This country has a great problem before her, it is nothing more or less than to absorb no fewer than 500,000 refugees expelled from Turkey and this, of course, is a very expensive proposition for her.

HUNGARY:

The Hungarians now seek the same aid from The League of Nations as Austria did. It is to be hoped that they will get it. They really are in a more prosperous condition than Austria is as they are an agricultural people and so are largely self supporting.

POLAND:

The Soviet Russian Government has been recognized by Poland.

RUSSIA:

This country has just sent to New York a great consignment of jewels which, formerly belonged to the royal family. There is serious hunger in the Northern and Eastern provinces.

PERSIA:

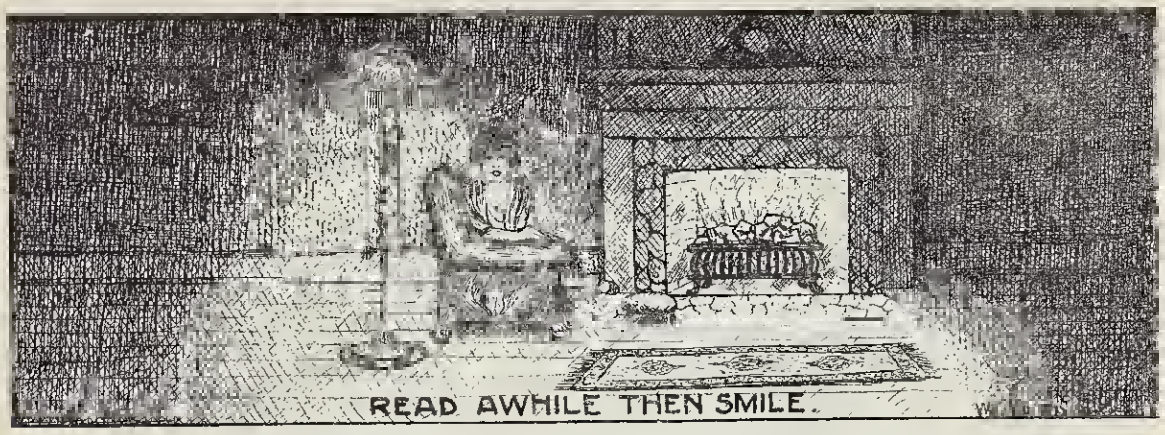
The Sinclair Oil Company has succeeded in getting a grant for oil exploitation in the northern provinces of Persia.

EGYPT:

A small group of Archaeologists on January 3rd, opened the doors of the three blue and gold inner shrines of the tomb of Tuthankhamen and revealed the magnificiently sculptured sarcophagus of the Pharaoh. It is of rose-colored crystalline saudstone, and has evidently not been touched since the tomb was originally closed.

ENGLAND:

Steel and Iron production showed signs of revival, also the building trades. The export of cotton goods showed marked improvement. There are 348,778 less unemployed than a year ago, but there is still much industrial discontent.



The Random Shot

I shot an arrow into the air
It fell in the distance, I knew not where;
Till a neighbor said that it killed his calf
And I had to pay him 6 and ½.
I bought some poison to slay some rats,
And a neighbor swore it killed his cats,
And rather than argue across the fence,
I paid him four dollars and 50 cents.
One night I set sailing a toy balloon,
And hoped it would soar till it reached the moon,
But the candle fell on a farmer's straw,
And he said I must settle or go to law.
And that is the way with the random shot—
It never hits in the proper spot,
And the joke you sprung, that you think so smart,
May leave a wound in some fellow's heart.

—Hamline Oracle.

Oversight or Neglect

It was a sleepy sort of day, the class was about half the usual size and the Prof. was calling the roll in a half-absent manner. To each name some one had answered "here" until the name Smith was called. Silence reigned supreme for a moment only to be broken by the Prof.'s voice.

"My word! Hasn't Mr. Smith any friends here?"

—Humbug.

We'd Never Thought of That

Small Girl—"Mummy, how do angels get their nighties on over their wings?"—The Passing Show (London).

Did He "Can" It, Too?

"What's the matter?"

"I wrote an article on fresh milk, and the editor condensed it."—Pelican.

Say It With Flowers

Don't divorce your wife. Take her a dozen roses. The shock will kill her, and you can use the roses for the funeral.—The Vancouver Sun.

Safety First

Dorcas—"Do you ever allow a man to kiss you when you're out motoring with him?"

Philippa—"Never. If a man can drive safely while kissing me, he's not giving the kiss the attention it deserves."—Kansas City Star.

No Trade

Farmer—"Be this the Woman's Exchange?"
Woman—"Yes."
Farmer—"Be ye the woman?"
Woman—"Yes."
Farmer—"Well, then I think I'll keep Maggie."

—The Vancouver Daily Province.

From X to O

A colored mammy came into the office of the estate for which she worked to receive her monthly wages. As she could not write, she always made her mark on the receipt—the usual cross. But on this occasion she made a circle.

"What's the matter, Linda?" the man in charge asked. "Why don't you make a cross as usual?"

"Why," Linda explained earnestly, "Ah done got married yesterday, an' changed mah name."

—Dry Goods Economist.

Real Thrift

Mrs. MacTavish (during radio church service)—Why are ye removen' the ear-phones, Sandy-

Sandy—They're takin' up the collection now.

How Are the Folks?

"Well, Rob, how are you and the folks?"

"Wal, everything was goin' fine till Thursday. Then my wife got sick and I had to get out and do the chores."—Judge.

Pity Her

Sarah—I had a nut sundae.

Clara—I have one calling tonight.

—Judge.

No Enthusiast

In the Courthouse of an Eastern city is a melancholy attendant who, when asked to direct people to the bureau of marriage licenses, inquires lugubriously:

"Do you insist?"

"Well, yes."

"Third door to the right."

—Louisville Courier-Journal.

Such a Delicate Instrument

The little girl, with childlike frankness, was talking family affairs at the neighbor's. "Mamma wouldn't pay the telephone bill," she said, "and Papa wouldn't pay it, and so now the phone is out of order."

—Boston Transcript.

The Telephone Rings

"Hello."
"Hello, is Boo there?"
"Boo who?"
"Don't cry, little girl, I guess I have the wrong number."

—Indianapolis News.

We All Do

Marie—How long did it take you to learn to skate?
Georges—Oh, about a dozen sittings.

—Toronto Goblin.

A Quick Change

"Have you ever laughed until you cried?"
"Yes, I did so this morning."
"How?"
"Father stepped on a tack. I laughed. He saw me. I cried."

—Korsaren (Christiania).

Spurring Him On

"Why do you refuse him if you want to marry him?"

"Because he has only proposed eleven times so far, and I want him to beat the record."—London Mail.

Too Close

A negro went into a bank down South to get a check cashed. He stood in line a long time and finally his turn came. Just as he got to the window the teller put up a sign: "The Bank is Busted."

The Negro—"What do you mean, the bauk is busted?"

Teller—"Well, it is, that's all; it's busted—didn't you ever hear of a bank being busted?"

The Negro—"Yes; but I never had one bust right in my face before."

—Dan Tucker.

Purely Medical Reasons

"Now, tell us about it—why did you steal the purse?"

"Your Honor, I won't deceive you—I was ill and thought the change might do me good."

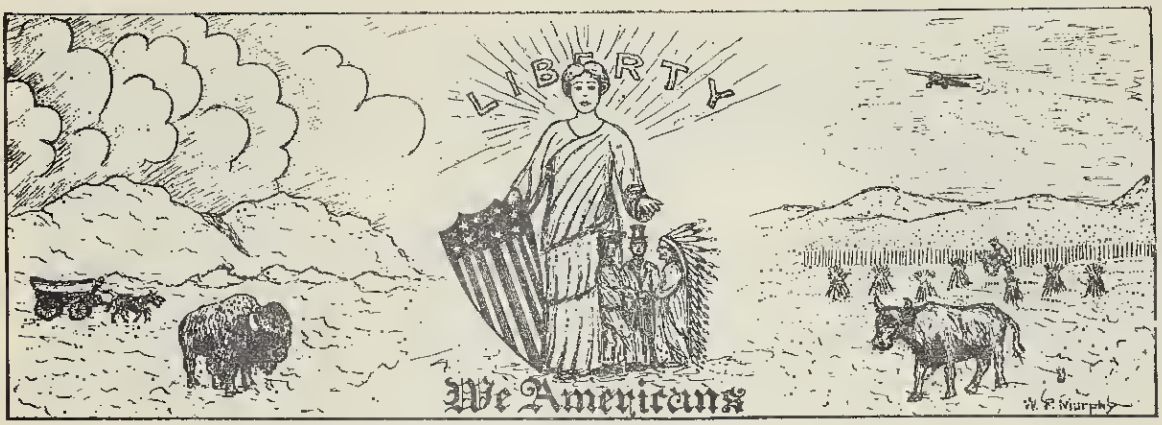
—Sydney Bulletin.

Absent minded dentist, tinkering inside the hood of his motor car; "Now, I'm afraid this is going to hurt you just a little."

Life Insurance Agent—One moment, sir, before I fill in your application. What make of car do you drive?
Client—I don't drive any. I hate them.
Agent—Sorry, but our company no longer insures pedestrians.—Boston Transcript.

Far Better

"Married yet, ol' man?"
"No, but I'm engaged, and that's just as good."
"If you only knew it, it's better!"



MICHAEL PUPIN, SERB—NOW AN AMERICAN

Forty-nine years ago a young Serbian immigrant of fifteen, landed at Castle Garden, New York, then the receiving station for those who, having left the Old World, sought the newer and to them better one, America. The passage from Hamburg was twenty-eight florins, and with that sum secure he said: "My books, my watch, my clothes, including the yellow sheepskin coat and the black sheepskin cap, were all sold to make up the sum necessary for traveling expenses. I started out with one suit of clothes, on my back, and a red Turkish fez, which nobody would buy." Without money to pay for blanket and mattress for his steerage bunk and unable to stand the cold of the March nights, he spent hours on the deck, "hugging the warm smoke-stack and adjusting my position so as to avoid the force of the gale and the sharpness of its icy chilliness." When he landed after fourteen days of cold and privation, he had but five cents left, which he said he "immediately spent for a piece of prune pie, which turned out to be a bogus prune pie. It contained nothing but pits of prunes."

Born in Idvor, in the Province of Banat, formerly controlled by Austria-Hungary, now a part of the Kingdom of the Serbs, Croiats and Slovenes; with a peasant father and mother, neither of whom could read or write, what hope for success could this friendless and penniless alien have? Following his experience with the pie vendor, he walked up to the corner of Broadway and Bowling Green streets., amazed at the high buildings and the mass of telegraph wires. His next experience was a fight. A crowd of newsboys and bootblacks, seeing the strangely dressed peasant boy wearing a red fez, jeered and mocked him, until at last one of the larger bullies knocked the fez off his head and the fight began. The immigrant lad struck the bully, then threw him, while the rest, though jeering and laughing, stood back; then the law, in the person of an unfriendly looking policeman, entered and, to the surprise of the strange boy the crowd seemed to be pleading his case while the policeman relented and handed him his fez. Thereafter he walked back toward the only door open to him, Castle Garden, while the boys cheered, and then a man, who turned out to be a Swiss foreman on a Delaware farm, offered him work. Such was the first experience of one poor immigrant, who later won, unaided, his way to the top of the scientific world.

This boy fought his way up through the study of the English language, attending night school at Cooper Union, and later, from an erratic German, he gleaned a knowledge of the Greek and Roman classics. From a factory boiler room American, Jim, who, though unschooled, was a sound, wholesome workman, he learned some of the rudiments of physics at the end of a coal scoop. The above will serve as a sketch of Michael Pupin's beginning. What followed? This peasant boy graduated from Columbia University with honors, then, as a result of the deep seated influences of Jim's boiler-room demonstrations and the Cooper Union Night School lectures on heat, he decided to push on to the end. Crossing the Atlantic he entered Cambridge University, England, and just after he there completed his mathematical training, a scholarship, known as the "Tyndall Fellowship" was tendered to him by his old Columbia teacher, and in a short time he found himself studying yet more difficult things in the University of Berlin. Within fifteen years from the day that he fought the bootblacks and newsboys on the streets of New York City, the boy, then a man, landed again in America a second time, to accept a professorship at Columbia, heading a new department, "Mathematical Physics in the Department of Electrical Engineering." Since that day he so perfected the X-ray machine as to make it the adviser of the whole medical aud surgical world; and in addition discovered the principle of the induction coil, which, known as the "Pupin Coil," made the long distance telephone a success. The Pupin Coil was not simply an invention, but was a combination of theory and intricate mathe-

matics. After Michael Pupin's patents were purchased by the American Telegraph and Telephone Company, they were used to perfect the radio apparatus, millions of which are now in use all over the world. Back of the tuning-in knob regulating the receiving instrument to the length of sound wave the user wishes to receive, is a Pupin Coil. This man, once the penniless immigrant, is a member of many of the world's scientific societies; honored by a great university with the degree of "Doctor," he performed such service during the late war through the National Research Council as to win the personal thanks of the generous minded President who followed the other great one who appointed him. Michael Pupin holds a passionate love for American Institutions and American Laws, and is a splendid example of the type which, regardless of race, religion or clime, solely through high resolve, wins honor, fame and position in spite of what seems insurmountable obstacles.

Reading the story of the little herder of cattle near the Bulgarian border, one can not help but feel that a devout mother and a strong national tradition, born of centuries of warfare with the Turks, were the factors that helped carry him to the top. As a boy he read and re-read in his native language, the stories of Washington, Franklin, Jefferson and Hamilton, and, to use his own words, "Extraordinary men can do extraordinary things, but the course of a nation's destiny will always be guided not by one, or even several extraordinary men of a given period, but by the persistent power of the nation's traditions."

HOW TO SAVE

Last month we touched on the subject of individual savings. Our readers will be interested in learning that in two and one-half years 11,372 employees of the Standard Oil Company have entered into a saving club, organized for the Standard Companies' employees, the average monthly subscription of participants, $32.25, or at the rate of $387.00 per man and woman per year.

OUR EDITOR

Those who have met our Editor, Mrs. Hecker, more particularly the women and children, will regret the illness that has kept her confined to the Rock Springs hospital for the past three weeks.

Unaccustomed to our western altitude, Mrs. Hecker, in her anxiety to get around and meet as many of the family as possible, perhaps over-taxed her strength, suffering rather seriously therefrom.

We are sure that our readers will join in the hope for her speedy and complete recovery.

DO YOU KNOW:

That the United States leads the world in tobacco production. There are 60,000,000,000 cigarettes made annually.

That Henry Ford gets 1,500 letters a day or 90,000 a week, asking him for financial help. This does not look good for the average American citizen.

That the only really free man in Europe is the peasant, the man who has potatoes and beans, and beef to barter for clothing and fuel.

That 500,000 years ago there lived a wolf-like animal that was twenty-five feet long. Fossils of this animal were found in Mongolia.

That it is on record that a cat named "Snowball" recently traveled 1,256 miles in order to get to the family who had moved away and had not taken "Snowball" with them.

For the Wee Wee Ones

Once there was a little kitty,
White as the snow,
In a barn she used to frolic,
Long, long time ago.

In the barn there lived a Mousie,
Just a teenie, weenie, weenie Mousie,
And she came to frolic in the barn
Long, long time ago.

Then the little kitty, white as snow,
Spied the teenie, weenie Mousie,
And she ate the teenie, weenie Mousie,
Long, long time ago.

Mothers' Department

AT CHURCH NEXT SUNDAY

If I knew you and you knew me,
How little trouble there would be,
We pass each other on the street,
But just come out and let us meet
At church next Sunday.

Each one intends to do what's fair,
And treat his neighbor on the square,
But he may not quite understand
Why you don't take him by the hand
At church next Sunday.

This world is sure a busy place,
And we must hustle in the race.
For social hours some are not free
The six week days, but all should be
At church next Sunday.

We have an interest in our town,
The dear old place must not go down.
We want to push good things along,
And we can help some if we're strong
At church next Sunday.

Don't knock and kick and slam and slap
At everybody on the map,
But push and pull and boost and boom
And use up all the standing room
At church next Sunday.

—From Our Sunday Visitor.

FOR THE WOMAN PAST FIFTY

By Mary Blake Woodson

So often people pull down their mouths and say: "Yes, but what is there for the woman past fifty?"

For one thing, there's the big job of watching her step or getting into the rut of carping and meddling with her adult children's affairs. For another, the average woman of fifty, in normal health, should simply take a long breath and feel that she is free at last! Her children are about grown and her responsibility over—if she could only be brought to realize this. Her time has arrived to take herself in hand and make herself fit once more, mentally and physically. She can begin on her personal appearance. She can luxuriate in doing things she has had to gloss over or get out of the habit of while the children were little. It is simply a second blooming time for her. Not that she could expect to bloom as she did earlier, but she can bloom again in a different and quite as lovely way.

STEAMED FIG PUDDING

1 cup suet chopped fine.
1 cup Figs.
1 cup bread crumbs.
1 cup sugar.
1 cup milk.
2 teaspoons Baking Powder.
3 eggs.
1 teaspoon vanilla.
½ cup flour.

Mix the dry ingredients, add well beaten eggs, then

milk, and vanilla. Steam in three one-pound baking powder cans for two hours. Serve with the following sauce:

½ cup Butter.
¾ cup Brown Sugar.
1 cup Whipped Cream.
2 Egg Yolks.

Cream the butter, add sugar and cook in double boiler until melted. Add yolks beaten light, stir and cook constantly for few minutes until the mixture coats the spoon (will curdle if cooked too long). Place the whipped cream on pudding and pour the hot sauce over just before serving, or fold the whipped cream into the hot sauce.

BANANA AND NUT TAPIOCA PUDDING

Soak one cupfull of pearl tapioca in two cups of water for two hours. Wash tapioca then in clear water by allowing water to run over it in a sieve. Then place in double boiler:

Tapioca.
1 pint boiling milk.
Tablespoon melted butter.
Pinch of salt.

Allow this to steam until tapioca is tender, then stir in the well beaten yolks of eggs, two sliced bananas, and a teaspoonful of vanilla extract. Cook ten minutes, remove from fire and stir in the beaten whites of the two eggs, when thoroughly mixed, put into mould, sprinkle with crushed English Walnuts and serve plain or with whipped cream.

GORDON HILBURN.

Reckless of Him

First Cannibal—"The chief has hay fever."

Second Cannibal—"Serves him right; we warned him not to eat the grass widow."—Awgwan.

COCOANUT CANDY

2 cups Sugar.
¾ cup Water.
1 package of shredded cocoanut.
½ teaspoonful vanilla extract.
White of one egg.

Beat the white of the one egg until stiff. Put sugar into a narrow frying pan, pour water over it and let stand two minutes. Then put on fire and boil without stirring until the syrup will form into soft ball when a little is dropped into a cup of cold water. Then take off and stir into it the cocoanut and vanilla flavoring and lastly beat in the white of egg. Now pour into a tin pie plate that has been buttered, let stand a while and cut into squares before it hardens too much. We know the children will enjoy it.

Answered by Mr. Cynthia Grey

Is it easy to upset a waiter?—T. E. G.

Not so difficult. Just try not tipping him.

I met a man yesterday and extended my hand in a friendly manner, but he pretended not to see it. We had always been on friendly terms. What do you think of a man like that?—H. S. S.

Mr. Grey cannot give an opinion without further information. Possibly he is a slight of hand man.

Conservation in Extremis

The dying man shook his head tearfully and maintained, "I won't take it, no, Ikey, it tastes awful."

"But, mine dear fren," groaned Ikey, "you can't die and leave all these expensive medicines wasted."

—Bison.

CHILDREN'S PAGE

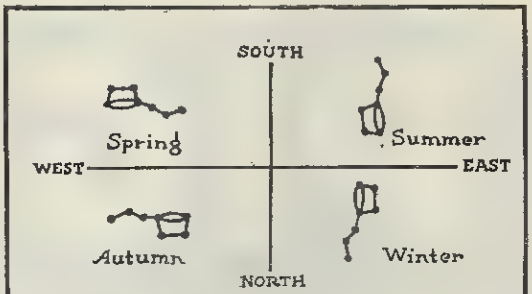
THE GREAT DIPPER, THE LITTLE DIPPER AND POLARIS

A coustellation is a collection of stars. Only a few of the nearer and brighter stars are visible to the naked eye. Many thousands more can be seen through a telescope.

This month we will talk about two constellations which are not only beautiful to look upon, but they are likewise very, very useful. You know to be both beautiful and useful is to approach perfection.

The Great Dipper:

The upper sketch shows a coustellation made up of seven leading stars that have attracted the eyes of men for thousands of years. We will call this group the "Great Dipper." In old testament days the Jewish people called these seven stars "Lazarus's Bier;" the four sided figure that makes the cup was said to represent the pall bearers, and the other three, Mary, Martha, and Mary Magdalene, the mourners. Others called this group "The Plough," and it has been called the "Butcher's Cleaver." In England it was called "Charles Wain," or "The Waggon," (they used two g's in spelling wagon then). Astronomers call this constellation "Ursa Major," which is Latin for GREAT BEAR, and as there is a LITTLE BEAR which we will tell you about further on, the Great Bear was a mother bear, for of course you could not have a little bear up in the sky without a ma bear to look after it, to feed it, to wash behind its ears, and do the other things that mama bears do for little bears today.



THE GREAT DIPPER

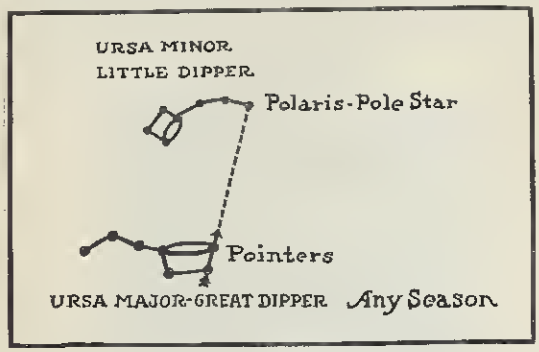
The GREAT DIPPER is useful because the two stars that make up the outside of the cup, whether it is summer, winter, spring or fall, always point to the POLE STAR and for that reason they are known as the "Pointers."

Hold the top sketch upside down over your head, the side marked "North" towards the north, and by imagining the sketch is the sky you can from it locate the GREAT DIPPER any clear night in the year.

The Little Dipper and Polaris:

The second sketch shows the GREAT DIPPER with an arrow passing through the two "pointers" and the arrow points to POLARIS, or the "Pole Star." Now the POLE STAR is the large, bright star that URSA MINOR, which is Latin for LITTLE BEAR, and which we call the "Little Dipper," wears on the tip of its tail.

The LITTLE BEAR has, like his mama, seven principal stars, though some of the seven are much fainter than the seven that make the GREAT DIPPER. Now all we have said about usefulness refers to the POLE STAR, at the tip end of the LITTLE BEAR'S TAIL. Ordinarily bears' tails, like cats' tails, do not amount to much, but if you step on one look out, you know a cat's tail was the original "wireless."



A few thousand years ago POLARIS was not the POLE STAR, and with the passing of a few thousand more years it will cease to be called the POLE STAR. You can see even stars change their abodes. The POLE STAR revolves around the North Pole, its orbit or path, but one and a third degrees away from the pole, and it is moving 19 seconds closer each year to it. When a captain or other officer of a ship wishes to find out where north really is, he takes his instrument called a sextant up on deck, finds the GREAT DIPPER and with his eye he follows an imaginary line through the two "pointers," picking out the POLE STAR; then after taking readings with his sextant, he quickly calculates his position. So it is with our surveyors, when they wish to find the true north they stay up long after all the little people are gone to bed, and picking out a level field they set up their transit, pick out Polaris, take a few readings, then make a few calculations and they have the true north, something you can neither get or keep with the best compass; and that the kiddies whose daddies and big brothers work in the mines may keep the GREAT DIPPER and POLARIS in mind, they will be interested in knowing that without Polaris or our warm friend, the Sun, it would be very hard to match up the surveys made in the mines with those made above ground. Go out the first clear night that comes, find the GREAT DIPPER, then follow the "pointers" to the POLE STAR and as you look at it let your mind wander back to the courageous men who centuries ago, first launched their little ships to "sail the seven seas." Think back to the men who lived on the shores of the Mediterranean Sea, to the men of Rome and Greece, with their little galleys, to the toy ships of Caesar, Mark Anthony and Cleopatra, the Queen of Egypt; to the hardy Norsemen, who came to America before Columbus, the Great Discoverer. Think, also, of that little band of Pilgrim Fathers, who, sailing from England August 5, 1620, in a little ship of 180 tons, the Mayflower, and who encountering violent storms, with its sister ship, the Speedwell, turned back, only to make the second start on September 6th, finally, after a tempestuous voyage, landing in Plymouth Harbor, Massachusetts, November 9th, the voyage lasting 63 days, these God fearing men two days later signing a covenant, which began, "In the name of God, Amen," and which provided for the enactment of "just and equal laws * * * unto which we promise due submission and obedience." Long before the discovery of the magnetic compass and the mapping of the seas, the sailor picked his doubtful course by the sun by day, his eyes fixed on his constant friend, the POLE STAR by night; and what long, long nights they were. To be as true as the POLE STAR is to be true indeed.

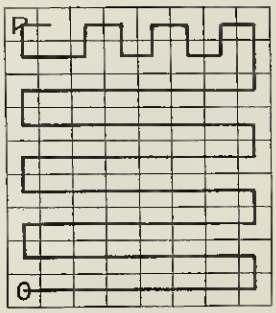
Dear Boys and Girls:

There were thirty correct answers sent in to the riddle of the January issue and so far we have six correct answers to the puzzle of the February issue.

After this please see to it that your answers are in before the tenth of the month in which the magazine comes out.

This time we have something for the wee little ones and if they can't read it themselves I wish you older boys and girls would read it to them.

THE EDITOR.
Room 304, First National Bank Bldg., Rock Springs, Wyoming.



Correct answers to the Puzzle were sent in by:

Doris Robinson,	Roy Robinson,
Evelyn Mae Brindley,	Henben Teitn,
Howard Penny,	Nellie Olofson.

The prisoner leaves his cell and goes into the right hand one, there he finds that he has forgotten his pipe so he goes back into his cell to get it, then goes to the cell below him and the rest is easy as you see.

Riddle

Though it stays by the house,
Yet it leaves in the spring;
Though I know well its bark;
I don't think it can sing.

He likes his bath so very well,
He eats his dinner in it,
I say, "Come out and take a walk",
He won't come for a minute.
I dropped a line to him one day
Inviting him to travel,
And when he came he wouldn't walk
But laid upon the gravel.

Social Items

ROCK SPRINGS

John Sharp, one of the old pioneers of Rock Springs, employed at No. 4 Mine, died in The Rock Springs Hospital, Thursday, February 14.

Leonard Hansen, clerk in The Mine Office, went to Kemmerer, February 16th, to root for the Kemmerer-Rock Springs Basket Ball game. Say Leonard, what's the other attraction?

Alma Anderson, stenographer for the Union Pacific doctor, was married Saturday, February the 9th to Dave Thomas, employed by the Central Coal and Coke Co.

Born to Mr. and Mrs. Charles Lightner, a baby girl, February 9th.

Mrs. Anton Yugovich underwent an operation for appendicitis, Monday, February 10th.

Mr. Paul Dundas of the auditor's office left Wednesday, February 19th, for his home in Omaha.

Have you seen the girls from the General Office and the auditor's office. Sure look good with their bobbed hair. I wonder if Gertrude, telephone operator, will bob hers.

Born to Mr. and Mrs. Vestor Matson, a daughter, January 31st. Mr. Matson is the efficient clerk at Mr. Lee's office.

The U. P. Boarding house changed hands, February 16th, Mr. A. E. Hill having sold out to Mr. Kruljac.

We are very sorry to hear of the illness of Mrs. Hecker, our editoress, and hope that we may be able to see her smiling countenance around the Rock Springs offices soon.

Mrs. John W. Barker and Daughter, Marilynn—Rock Springs.

You may have wondered why the Rock Springs Material Office do not answer the telephone during lunch hour. The answer is found out on the Barn Yard Golf Course. There you will find Emmett and Carl doing their best to show Blutch and Ham how the horseshoes should be pitched. By reason of the fact that Blutch ranks first in points scored he is forced to admit that he is "good." Arrangements are being made to enter him in the next annual Horse Shoe Pitchers Tournament against the champion of Posie County, Ind.

"Bill" Bullock, Son of G. E. Bullock, Travelling Auditor.

CUMBERLAND.

Mr. Joseph Clark is spending the winter in California. He expects to be much improved in health by his stay.

The Benefit Basket Ball game was a great success. It was given in Amusement Hall No. 1 on February 9th.

The Ladies' Relief Society gave a Valentine party. It was a great success. Refreshments were served.

The Community Dance on February 16th was a most pleasant affair. These community dances are a great feature of Cumberland and no one would want to miss them.

Mrs. Peter Boam who was confined to her home with mumps is able to be out and around again.

Mrs. Bert Williams is visiting her mother in California.

Mr. and Mrs. George Blacker were called to Star Valley by the death of Mr. Blacker's mother.

Mrs. John Grogies and little son are visiting in Colorado.

Mrs. G. A. Brown, who was called to Kingston, Pennsylvania, on account of illness of her mother, has returned accompanied by her mother, Mrs. Lang. The latter is in hopes of regaining her health.

Mr. Wm. Thomas is on the sick list and expects to go to Spokane, Washington, for his health.

Mrs. Pope Walsh has returned from a two weeks visit in Salt Lake.

The Children's dance at No. 1 Hall was well attended.

Blanche and Beatrice, Daughters of Mr. and Mrs. Clarence Johnson.

The Sunday School gave a little entertainment the early part of February. It was well attended and the children had a lovely time.

Hurrah for Cumberland! Just see this list of boys who have arrived at Cumberland:

Mr. and Mrs. Joe Georgis, a son.
Mr. and Mrs. Wm. Cook, a son.
Mr. and Mrs. Frank Berrier, a son.
Mr. and Mrs. Clarence Johnson, a son.

SUPERIOR

Dr. and Mrs. Lyons have left for Pocatello, Idaho, where Dr. Lyons intends to locate.

Ed. Hysell and Ray Bond have left Superior to work in the machine shop at Evanston.

Alida Johnson and Nick Dvik, two well known Superior people, were united in marriage, by Justice Wylam, on February 3rd. The wedding celebration was largely attended, many came from out of town to the ceremony. The bride and groom received over $1,000.00 in money, gifts from their friends.

The Masons gave a dance last month, at the Opera House. The ladies brought baskets of lunch, which was heartily enjoyed by those present.

C. A. Murray is showing off a new Essex Coach.

The Silver Leaf Club (a colored club) gave a dance at the Opera House recently. Many out-of-town people enjoyed the dance.

Mr. John Sharp has gone to Salt Lake City, to accept a position.

Mr. Thomas Gibson was a visitor in Superior during February.

Chas. Morgan has changed his position as Master Mechanic to that of Engineer in "C" Mine. Mr. Z. W. Nash, of Cleveland, Ohio, is the new Master Mechanic.

Mrs. Emil Draege and Mrs. J. D. Behrens recently entertained several friends at a "500" party. Mr. McIntosh and Mrs. Burnsmier were the lucky people, capturing first prizes. Mrs. McIntosh and Mr. Burnsmier received the consolation. A fine lunch was served by the hostesses.

Father Welsh, from Rock Springs, holds services at the Catholic Church here once a month, Sunday school is held every Sunday. The Protestant Church is not so fortunate to have a minister, but a lively Sunday school is held every Sunday.

John May, miner at "D" Mine, aged thirty six years died of alcoholic poisoning early in February. Interment was made in the cemetery at Rock Springs.

Superior Schools will give a winter caruival at the Union Hall on February 16th. Doris Robinson was chosen queen of Kabibonakka, the High School paper, and will be crowned queen at the carnival. The ceremony will be complete, pages, ladies in waiting, and everything. The Hall will be decorated for the occasion. The proceeds are to go for athletics.

HANNA

Mr. Henry Wright, who was seriously injured by a slide of coal in No. 4 Mine, Tuesday, January 22nd, is recovering nicely. Mr. Wright was severely iujured about the head and face, and credit should be given to Dr. Smith for the wonderful, almost miraculous skill he rendered. The miuers of Hanna should be proud to have such a learned man in their midst. The K. of P., the D. O. O. K. and the I. O. O. F. of Hanna, of which Mr. Wright is a member, as well as the I. O. O. F. of Rawlins, showed their sympathy by sending flowers.

Miss Jane Wright, who is a studeut of the State Normal School of Greeley, is in town, she was called home when her father's coudition was heard of.

Ethel May Chaushart has undergone au operation for appendicitis, and is getting along nicely.

Mr. Isaiah Sherritt, who has been ill, is again at work.

Mr. Robert Wright is back in town again after working in Superior for the past few months.

Mrs. Charles Maxson, who has beeu very ill, was nicely improving, but is ill again at this writiug. We sincerely hope Mrs. Maxson will improve.

Mr. and Mrs. Bertraud Taylor aud daughter Lola recently returned to Hanna after a trip to Australia and New Zealand and are staying with Mrs. Taylor's brother, Mr. Charles Maxson.

Mrs. Sam Marino and twins, Tony and Mike, will leave Hanna to join Mr. Marino, who is uow residiug in Chicago.

The girls of the St. Rits Club, did very well at their dance January 19th. The proceeds of the benefit went to the Catholic church of Hanna.

Mr. William Alstrom was injured by a fall of coal in No. 2 Mine, but is able to be about.

Alex Revel, Tono.

TONO

A boy was born to Mr. and Mrs. J. L. Davis January 7th. Mr. Davis is employed in the power house at Tono.

An epidemic of measles has been runuing this section of the country and nearly all of the small children in Tono of primary age have been afflicted.

The Women's Club of Tono gave a party recently at the Tono Hall to which the men were invited. A very enjoyable evening was reported.

The Rankin Twins, at 3½ Years.

Mrs. Wm. Mossop underweut au operation recently at Dr. Sweets hospital in Centralia. She has now returned to her home in Tono aud is couvalescent.

Mrs. Walter Logan also was operated on very recently at the Sweet hospital in Centralia and as yet has not returned home, but is reported to be doing nicely.

John Shuck had the misfortuue to have his car, an Oakland Sport Model, stolen from the street in Centralia. At this writiug the car has uot been recovered and is a total loss as the insurance ou it had expired the week previous to the theft.

The Same Twins 2 Years Later.

The Sunday School is progressing nicely although the attendance has fallen off somewhat on account of so many cases of measles among the people, yet the average attendance has been about 70. The teachers, nine of them, can care for more pupils and all are welcome.

"Darling," he said, "I love you. Time is short. I leave tonight. Is my visit worth pressing?" He paused, trembling, aud waited for her auswer.

"I don't know," was the girl's reply. Your trousers are a bit baggy at the knees, but your coat seems passable."


Virginia Irene Finney
Winton
Betty Lou & Eula Mae Baldridge
Rock Springs
Lerne Doris Williams
Cumberland
Tommy & Roddy Butler
Hanna
Cumberland
Annie and John Titmouse
Cumberland

ACCIDENTS IN THE PAST MONTH

We present below a number of accidents which have occurred since the last publication. As you read think of the way in which each accident could have been avoided:

Driver, hauling loaded cars in entry, stepped off trip at regular place to sprag cars and fell with foot on rail, car ran over foot crushing badly.

Rope rider, while his foot was caught in the latch of a switch the trip ran up on him and he was fortunate to escape with a bruised foot.

Rope rider, was coupling trip and gave a fast bell, cars hit and jumped track breaking his leg.

Rope rider, was riding his loaded trip when high loaded car roofed and coal rolled back crushing his fingers.

Miner, while capping fuse held cap in left hand and fuse and pit lamp in right hand. Flame of carbide lamp detonated cap causing loss of fingers and thumb of left hand.

Miner, pulling down loose face coal attempted to drop large piece and was unable to do so. He walked in front of the loose piece of coal and it fell causing painful and serious injuries.

For safety and to give it the thought and attention it deserves. We now give the following letter to all men taking employment with this company:

"TO NEW EMPLOYES:

You have accepted employment as an experienced workman.

This company does not want men who are careless and who thereby lay themselves and their fellow workmen open to injury.

No matter in what kind of a job you will work you are joining a group of careful workmen directed by careful foremen and you will be expected to keep up with them in the matter of safety.

Over half of the men injured in our mines are hurt at the working face by top coal and rock. This coal is high and the loose coal on the face must be watched.

Examine the place where you work and 'MAKE IT SAFE.'"

This is done in an effort to protect the man himself and for the very important reason that any careless practices on his part will endanger others, in the mine or on surface, who are trying to MAKE IT SAFE.

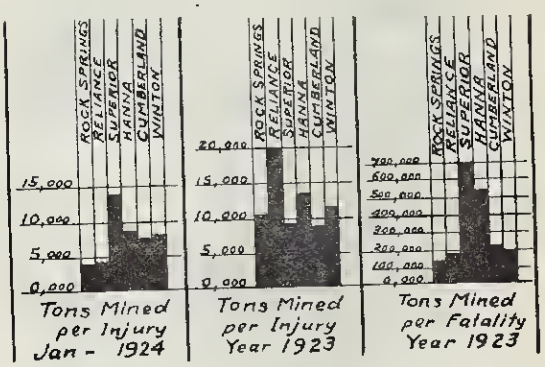
New men coming in from other fields may have failed to feel the protection afforded by careful supervision of their work; they may never have had such supervision and training and may not regard the question of safety in a serious and corrective manner.

The matter of propping loose coal or rock and watching slips may not have been forcibly impressed upon him if he came from a good top field.

He may have worked in coal of a different nature and in thin coal and may not realize the danger of FACE COAL, especially on a pitching vein.

Vicious methods of preparing coal shots are in existence in some parts of our country and the care that is exercised by all the men in a mine may be set at naught by some new man from the land of black powder, long drills of large diameter and things worse.

Some of our mines must be carefully guarded against accumulation of gas now and no one can promise when other mines may be classed as gaseous. New men, starting work, who do not understand the necessity for, or are careless of our rules, are a menace to all in the mine and should be warned from careless practices by their fellow workmen.



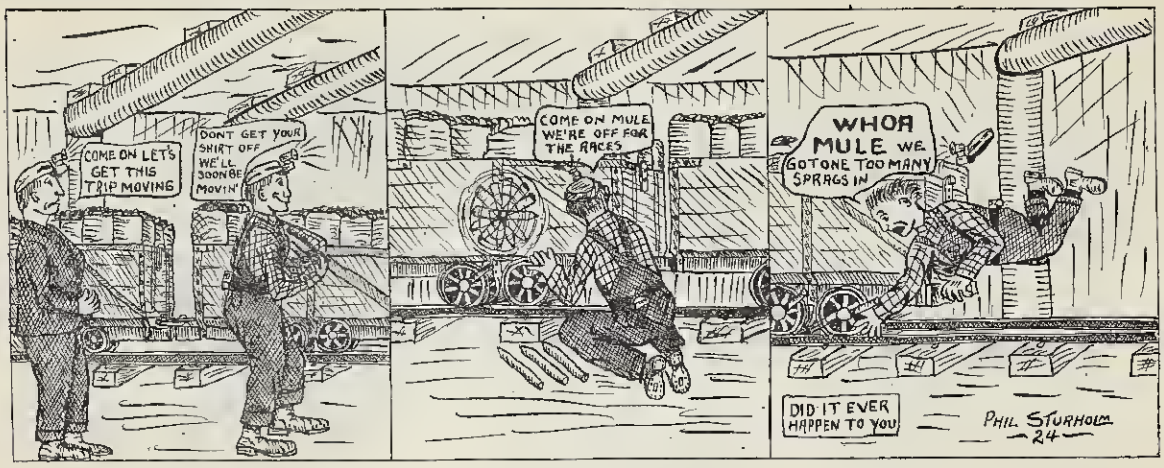
See the result of our January operation in tons mined per injury. For the total production of six fields we only mined 6,145 tons per injury and suffered one fatality during the month.

In 1923 we mined better than 10,000 tons per injury and one field mined 20,000 tons by taking advantage of available safety precautions thereby proving that live and vigorous safety campaigning brings results.

One gratifying feature of this month's statistics lies in the fact that only six of the injuries were of a serious nature, the balance being bruises and minor lacerations painful when experienced but not lasting.

The face coal injuries continue to be the most frequent of occurrence. In mines where the employees are changing frequently and where new men come in from coal fields where the veins are thin, the most careful supervision by foremen and safety patrolmen is necessary to protect miners and loaders. Men will, without thinking of the risk, step between the empty car and the face and proceed to load when coal on the face is loose. If the loose face coal comes down and it generally comes suddenly, the man has no place to escape and may be pinned against the mine car.

Many foot and leg injuries are caused by coal rolling from the pile and stout shoes are recommended as a measure of protection with possibly leggings as an additional help against bruises and lacerations.



Whoa, Mule!

MAKE IT SAFE

A Safety Course in the Public Schools

A movement is on to introduce the Safety First work in the public schools of our states and as this is the one sure means of reducing the states' loss through death and injury to their citizens and their children the following paragraphs are presented as a line of suggestion on the course to be followed:

(1) Recognition of the importance of the work by the appointment of a trained instructor in matters pertaining to safety.

In this connection it must be realized that while the mental development of our youth is necessary, something must be done to first teach children to protect themselves and incidentally aid their fellows. In this, faced by the appalling statistics in deaths and injuries to our developing race, we must return to the primitive. Many will say, "Train the population to care for the children and see that they are protected; enact and enforce statutes and ordinances making the penalties for infringement so severe that the killings will cease." We are burdened with legislation now and the enforcement of the laws on the record is difficult. The young must be trained to care for themselves as do the young of the wolf and the coyote and when this is carried on for a few years the result will be in evidence in the reduction of accidents.

Our children are reared under a greater degree of ease than ever before, parental discipline is becoming more and more lax and children have almost ceased to heed the warnings given at home as to their safety. From this it follows that they must be taught to protect themselves by avoiding and correcting dangers and it is clearly the task of the instructing staff of the public schools to give first thought to this teaching of safety. Consider the loss in the death and permanent impairment of children who have received instruction in the public schools for perhaps ten to twelve years; of what avail then has been the effort of the teachers?

(2) Instruction of teaching staff in safety methods to prepare them to pass on the work to the children.

(3) Organization of Safety Committees in the school rooms using care to rotate the members and the creation of a central safety committee for each school with a general control committee for the entire school system.

(4) Use of bulletins originated by the safety committees. The bulletins must be short and catchy. Posters may be made by the kindergarteners, etc.

(5) The school paper (periodical or magazine) should carry at least one full safety page.

(6) Conduct classes in First Aid to the Injured work as set forth in the U. S. Government manuals using simple work for the smaller children.

(7) Solicit donations for prizes for "Best safety turn done", "Best Safety Poster", "Best Safety Paper", "School with Lowest Accident Record" and "Room with Lowest Accident Record."

(8) Send a First Aid Team to the State Contest each year.

(9) Make Safety First the primary consideration of education, post signs and in every way you can devise, protect the rising generation.

TAKE CARE OF YOUR SAFETY

You had better take care of me.

Perhaps you don't think much of me at times, but if you were to wake up some morning and realize that you had not taken care of me you would start that day with an uneasy feeling.

From me you get food, shelter, clothing and such luxuries as you enjoy.

If you want me to—badly enough—I'll get you a home, an automobile and an education for your children.

But I am exacting. I am a jealous mistress. Sometimes you appear hardly to appreciate me at all. In fact, you make slighting remarks about me at times, and neglect me.

Considering that you need me not only for the material things of life, but spiritualy as well, I wonder, sometimes, that you neglect me as you do.

What if I should get away from you? Your happiness would flee, for a time at least and possibly forever; and your wife would worry, your bank account dwindle and your innocent children suffer.

So, after all, I'm pretty important to you.

I'm your SAFETY!

Cherish me. Take care of me, think when you start to work and while you are working. Bear in mind the possibility of a dangerous condition in or around the place where you work and MAKE IT SAFE.

BARN YARD GOLF

We pitch horse shoes. Do you?

We challenge any department to a match played under the National Horseshoe Pitcher's Association of the United States rules.

ROCK SPRINGS MATERIAL DEPARTMENT.

PERMISSIBLE EXPLOSIVES

A little over twenty years ago, there was developed in Great Britain, and a little later in America, what was known at that time as flameless explosives for use in coal mines. It was later demonstrated from using them that these explosives were not flameless and the name was changed to permissible explosives because they had to undergo certain tests at the Government testing stations. What was accomplished by the development of these explosives was a reduction in the length and duration of the flame when compared with black powder. The absolute length of black powder flame being from two to four times as great as permissible and its duration from 1500 to 3500 times that of permissihle and, although the theoretical flame temperature of permissible is very little different than black powder, it will readily be understood that the length and duration of the black powder flame is what makes its use so dangerous in coal mines on account of its propensity to ignite coal dust under certain conditions.

The United States Bureau of Mines Engineers tell us that in all tests made with black powder in an atmosphere impregnated with coal dust that ignition occurred in every case, whereas with tests made under exactly the same conditions with permissible powders, detonation occurred without showing any signs of ignition. This is surely a very forcible argument in favor of the use of permissible powder in coal mines.

It has been demonstrated also that permissibles in practice are more safely handled than the black powder, particularly those permissibles with the ammonium nitrate base, which are less insensible to shock and less easily discharged than black powder or permissible powders with nitro glycerin base. Of course, it must not be understood that explosives of the former class, or any explosive for that matter, can be handled in a careless manner. All explosives are dangerous and no liberties should be taken in handling them.

In the conversion of black powder from a solid to a gaseous state, or the rate of burning, as it is called, the gases formed occupy 400 times the space formerly occupied by the solid, and the rate of burning is about 1500 feet per second. On the other hand, the conversion of permissible from a solid to a gaseous state, which is termed the rate of detonation, ranges from 5000 feet per second to about 10,000 feet per second. so it may very readily be understood that the action of permissible explosives is from three to six times quicker than that of black powder.

The theoretical unit pressure produced in converting black powder from a solid to a gaseous state is 70,000 pounds per square inch, similar unit pressure for permissible explosives being from 70,000 to 125,000 pounds per square inch. Those permissible powders with as low a unit pressure as black powder are very similar in their action to black powder, producing coal equally as good and with as small a percentage of fine coal as the black powder.

Recent tests made by The Union Pacific Coal Company demonstrated that, with proper precaution in shooting, just as good results can be obtained with the use of permissible explosives as with black powder and with practically no increase in cost to the miner and these results have been duplicated by other coal companies throughout the United States.

The United States Bureau of Mines has established a charge limit of 1½ pounds and if the permissibles are used in excess of the amount the explosive ceases to be a permissible, but in practice, where coal is undercut it should never be necessary to exceed this limit. An erroneous impression seems to persist among miners—that it is unnecessary to tamp to the collar, a hole charged with permissible powder. Good results are being obtained in some states by tamping very lightly for a distance of one foot outside of the powder, so as to provide an air space, then tamping very tightly to the collar of the hole. A great deal of explosives in coal mines is wasted on account of imperfect tamping.

Permissible powders are rapidly gaining favor in coal producing states, one Western State having gone over to the use of permissible powder entirely in recent years, while other states are showing a very material increase in the amount used. Black powder has been the definite cause of many explosions and of many disastrous fires in coal mines and its use in coal mines is slowly but surely diminishing year by year, and I am of the opinion that it will be displaced by permissible powder in all coal mines of the United States, before very many years. This will be brought about by an increase in the utility and dependability of the permissible explosives. The manufacturers of the permissible explosives are bending every energy to supply the needs of the coal mining industry and they are to be congratulated on the success they are meeting with in this direction.

The commercial operators have been slow to adopt the use of permissible explosives because they feared their use would increase the amount of fine coal. While this was true until recent times the permissibles being developed today have many of the characteristics of black powder in their action.

The miners too have been slow to adopt the use of the permissible explosives, but this is not to be wondered at when it is considered that they have been accustomed to the use of black powder for so many years and it has been their ideal of an explosive and has met their requirements and they naturally object to changing over to another explosive with which they are unacquainted. The time will come when a better knowledge of the properties and possibilities of permissible powder will become apparent, and largely because of its Safety First features its general adoption in coal mines is only a question of time.

With a more common use of permissibles better results will be obtained and cost per ton be reduced on account of miners being better able to judge the amount of powder required to do a certain amount of work.

The following results in costs per ton, wide and narrow work, were taken from tests recently made by The Union Pacific Coal Company at the four points shown:

	Permissible		Black Powder	
	Wide	Narrow	Wide	Narrow
Rock Springs	1.3¢	4.6¢	1.8¢	3.5¢
Reliance	1.6¢	3.3¢	2.3¢	2.9¢
Winton	1.6¢	2.7¢	2.3¢	4.0¢
Superior	2.2¢	3.9¢	2.3¢	3.6¢

Sheridan's Ride

Up from the South at break of day,
Bringing to Winchester fresh dismay,
The affrighted air with a shudder bore,
Like a herald in haste, to the chieftain's door,
The terrible grumble, and rumble, and roar,
Telling the battle was on once more,
And Sheridan twenty miles away.

And wider still those billows of war
Thundered along the horizon's bar;
And louder yet into Winchester rolled
The roar of that red sea uncontrolled,
Making the blood of the listener cold,
As he thought of the stake in that fiery fray,
With Sheridan twenty miles away.

But there is a road from Winchester town,
A good, broad highway leading down;
And there, through the flush of the morning light,
A steed as black as the steeds of night
Was seen to pass, as with eagle flight;
As if he knew the terrible need,
He stretched away with his utmost speed;
Hills rose and fell; but his heart was gay,
With Sheridan fifteen miles away.

Still sprung from those swift hoofs, thundering South,
The dust, like smoke from the cannon's mouth;
Or the trail of a comet, sweeping faster and faster.
Foreboding to traitors the doom of disaster,
The heart of the steed and the heart of the master
Were beating like prisoners assaulting their Walls,
Impatient to be where the battlefield calls;

Every nerve of the charger was strained to full play,
With Sheridan only ten miles away.
Under his spurning feet the road
Like an arrowy Alpine river flowed,
And the landscape sped away behind
Like an ocean flying before the wind,
And the steed, like a barque fed with furnace ire,
Swept on, with his wild eye full of fire.
But lo! he is nearing his heart's desire;
He is snuffing the smoke of the roaring fray,
With Sheridan only five miles away.

The first that the general saw were the groups
Of stragglers, and then the retreating troops;
What was done? What to do? A glance told him both,
Then, striking his spurs, with a terrible oath,
He dashed down the line 'mid a storm of huzzas,
And the wave of retreat checked its course there, because
The sight of the master compelled it to pause.
With foam and with dust the black charger was gray;
By the flash of his eye, and the red nostril's play,
He seemed to the whole great army to say,
"I have brought you Sheridan all the way
From Winchester down to save the day!"

Hurrah! Hurrah for Sheridan!
Hurrah! Hurrah for horse and man!
And when their statues are placed on high,
Under the dome of the Union sky,
The American soldier's Temple of Fame;
There with the glorious general's name,
Be it said, in letters both bold and bright,
"Here is the steed that saved the day,
By carrying Sheridan into the fight,
From Winchester, twenty miles away!"

THE STORY OF TROY

Long years ago there was a large city in Asia Minor. The name was Troy, it was a large and beautiful city. A king by the name of Priam ruled over the city, he was good, wise, and his people were happy. Then one day a little baby boy was born to him and his wife, they were very, very joyful over this, but alas! a fortune teller came to the king and told him that this baby, if he lived to grow up, would be the cause of the downfall of the city and of Priam's death. What was to be done? Finally the people heard of it, and insisted that the baby be killed. How hard that was for the king and queen, they could not do it themselves, so they asked a shepherd to take the baby out in the hills and let him starve to death. The shepherd promised to do so, but when he got the baby out into the country and found that he was such a beautiful child, he could not kill him. He said to himself, "I'll keep the baby for my very own, and nobody will know that I did not kill him."

Paris, that was the baby's name, grew up as a shepherd's boy and learned to take care of the sheep. He became very handsome. One day there was a dispute among the goddesses on Mount Olympus, about who was the most beautiful goddess. You know at that time the people believed in many gods and goddesses, not in one as we do now. These three goddesses, Juno, Minerva and Venus, quarrelled in a most terrible manner, they nearly killed each other, but finally they said, "well, we will let Paris decide who is the most beautiful goddess." But Venus was a little tricky, she came down to him one evening while he was herding his sheep and said to him, "If you will say that I am the most beautiful goddess, I'll see to it that you will get the most beautiful woman on earth as your wife." So Paris decided in Venus's favor and she became the most beautiful goddess on Mt. Olympus.

Then one day Paris reminded her of her promise to him, and she said, "You must go to Greece and steal Helen, Menelaus' wife, she is the most beautiful woman on earth, I'll help you get her." So when Menelaus was away from home, Paris stole Helen and took her to Troy, as that city was right across from Greece. When Menelaus came home and found Helen gone, he was of course, very, very angry, and vowed that he would get Helen back from Troy. He asked all the other kings in Greece to help him and they got together a great army, and crossed the Aegean Sea to Troy. The Trojans had heard they were coming and organized a great army also. For ten years they fought each other, first one side winning, and then the other, finally the Greeks won by playing a trick on the Trojans. They built a beautiful white horse of wood, and covered it with the most wonderful jewels and gold trimmings, they then told the Trojans they were going home and wanted to give them their horse as a present. The Trojans believed them and accepted the present, and even pulled down part of their great wall to get the horse in. The Greeks were seen to sail away, they had, however, concealed some great warriors inside the horse and when night came one of these warriors came out, opened all the gates and let the Greeks in, who had come back after night fall. They set fire to the whole city and most of Trojans were killed, even the great king. So after all the prophesy had come true, and Paris was the cause of his father's death, and one of the Pleiades left the heavens when she saw Troy burning and never came back!

TONO

By Geo. Watkin Evans

During the early part of December of last year I sat in the comfortable club house of the Union Pacific Coal Company at Rock Springs, Wyoming, where I had stopped over for a few days on my way from New York and other points in the East. While sitting there listening to the conversation of the interesting young women and men who live at the club the editor of the new Employees Magazine of the Union Pacific and Washington Union Coal Companies, asked me if I would write a brief description of Tono.

I had, during my eastern visit, been down in the coal mining communities of West Virginia as well as other coal fields of the East and when TONO was mentioned, the contrast between the natural conditions in the West Virginia Coal Fields and those at Tono presented themselves to my minds eye very forcibly. On the one hand I saw the narrow dirty canyons of the average West Virginia coal community, while on the other hand there was presented to my mind the flower gardens and green grass of Tono.

Nature was in a very kindly mood when the Puget Sound district was formed and the district around Tono is equally well blessed, but in addition to this, the Washington Union Coal Company has taken advantage of the natural conditions, and the combination has resulted in there being at Tono one of the most attractive coal mining towns in the West. On the other hand the towns of the West Virginia Field have in many instances been built in narrow defiles where the dirty water of the coal dumps finds its way through the streets of the towns. The people of Tono cannot realize what they have to be thankful for until they visit some other coal fields and make a comparison.

Tono is about eight miles in a direct line northeast of Centralia, Washington, which progressive city is about midway between Portland, Oregon, and Seattle, Washington, being in round numbers about one hundred miles from each of these attractive cities of the Northwest. There are rolling hills surrounding Tono and to the eastward are the foothills of the Cascade Mountains with several clear mountain streams winding their way toward the Chehalis River and on to the Pacific Ocean.

The hills surrounding Tono are underlaid, for the greater part, with numerous coal beds that are much younger than those of Rock Springs; the Tono beds are Eocene and those at Rock Springs are Cretaceous. Because of their youthfulness the coal beds are not as high in fixed carbon as is true of the Rock Springs coal but are higher in moisture; they are classed as sub-bituminous, whereas the Rock Springs coals are non-coking bituminous.

The principal bed mined at Tono is about 16 feet thick but only about eleven feet of the lower part of the bed is recovered; the upper five feet is more or less bouey and since the product of the mine is maintained at a reasonably high standard, the top coal is not regularly mined. The coal bed dips for the greater part from two to four degrees and is in the form of a saucer with the main slope extending from the outcrop of the coal bed southerly to the center of the saucer. The basin is a little over a mile across in a north and south direction.

There are numerous coal mines in the Centralia-Chehalis Coal Field but the Tono mine is recognized as the pace maker for the field, not only in production but in mining methods as well, also in safety methods. The Washington Union Coal Company has always maintained a high standard in operating and safety methods.

The sub-bituminous coal beds of the Centralia-Chehalis Coal Field fire very easily from spontaneous combustion so that great care must be taken in laying out a mine to see that proper precautions are taken to prevent the spread of a fire that might become started. In laying out the main slope of the Tono Mine and the several entries off the slope, as well as the auxiliary slopes, care was taken to have the pillars large enough and when a panel of coal was mined out it was stopped off very carefully and in the event that a fire did start, there were always large pillars of coal left so that suitable stoppings could be constructed to keep the fire from spreading to other parts of the mine. This precaution has saved the Washington-Union Coal Company thousands of dollars as well as safeguarded the lives of the men.

Other mines in the same coal field with conditions equally as good as those at Tono were laid out without reference to fire hazards and this oversight on the part of some of the coal companies has meant the difference between success and failure. Fires break out and because the pillars are not large enough to retain a fire back of the stopping, the fires would break through into the return airways and in this manner handicap the operations.

One would naturally think that because the Tono Mine is a success in more ways than one, that there are no difficulties of operations; the contrary is the truth, there are as many if not more faults per acre in the Tono Mine than in almost any other mine in the same field and some of these faults have as great as sixty-five feet displacement. The men who prospected this area of coal and who laid out the present mine worked out grades and laid out the haulageways so as to overcome many of the natural obstacles.

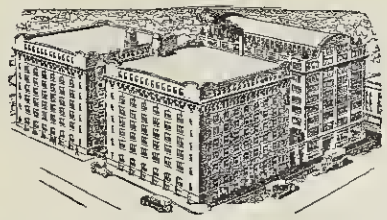
Up to November of last year there were produced from this mine 226,201 tons of coal which places this mine ahead of the well known Black Diamond Mine in King County with its 210,411 tons. One mine in the Roslyn Field, the Number 8 Mine of the Northwestern Improvement Company, has a larger output than the Tono Mine; this mine has produced as high as 1,600 tons of coal in one day. The total output of the Number 8 Mine and the Number 6 Mine, a smaller one of the same company, was 314,269 tons up to and including November of last year.

The fact that there is little or no explosive gas at the Tono Mine, along with the further fact that there is but little if any dust in the mine, causes this operation to be comparatively safe. The one element of danger that has been more fatal than any other has been fall of roof, especially the falling of the top coal at times when men have attempted to mine it.

The writer of this brief description travels over the greater part of Western North America, as well as portions of the Eastern States, and I believe I am safe in saying that I would rather work in the Tono Mine and live in the Tono District than any other coal mining district that I visit in my travels. It is true that shoveling into the cars at Tono is hard work but this is not worse than in other coal fields, and I am sure that when the management works out the mechanical shoveling in the mines of the system, the employees at Tono will be doubly blessed. They will have pleasant working and living conditions with one of the drudgeries of coal mining removed, that of shoveling coal into the cars by hand.

The climate at Tono is mild; snow falls during some winters but does not stay on the ground very long. There is no extreme cold weather and the summers are the delight of the human race. The streams coming from the Cascade Mountains are teeming with mountain trout in many places, and when the deer season opens there is little difficulty in going out and bagging a deer. (George Pryde and Matt Medill please note).

No, kind reader, I have no real estate at Tono to sell nor at any place near there, but if I followed the vocation of a manual coal mine worker, and from what I know of the other mines of the country, I would most assuredly go down to Tono and ask either Mr. Hann, Mine Manager, or Charles Friend, Mine Foreman, for a job.



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